



Work Elements and Definitions by Category

Data Current as of: 03/22/2021

Report Printed: 03/22/2021

Fiscal Year: 2021

This is the list of 75 work elements for Fiscal Year 2021

Contracts that start in this fiscal year must use work elements from this list.

Click on the Work Element ID links below to view all instances of that Work Element, click the WE Name links to view the work element's background page, and click on the WE Owner links to email a question or suggestion to the BPA person responsible for the work element.

BPA Internal Operations Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|--|---|------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 5 | Land Purchase and/or Conservation Easement | This is a BPA Internal-use only work element. BPA uses this work element to describe directly wiring money to escrow associated with real estate transactions. This work element only covers the purchase price or option of the land or easement (it may include escrow, title, and/or closing costs). Any work performed by BPA's Transmission Business Line (TBL) in support of the real estate transactions shall be covered by WE#6, TBL Work (also a BPA Internal-use only work element). | Anne Creason | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 200 | Stewardship Funding | This is a BPA Internal-use only work element. For some acquisitions, BPA will provide stewardship funding (a one-time, lump-sum payment for O&M) at the time of closing or closely thereafter. Typically, BPA and the party receiving the stewardship funding will develop a letter agreement or contract to stipulate how the funding will be provided and how the funding will be used. The stewardship funding is typically wired to escrow. | Anne Creason | ✓ | ✓ | | ✓ | ✓ | |



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| 204 | Electricity (BPA Direct Pay) | This is a BPA Internal-use only work element. BPA uses this work element to directly pay the utility bill for existing structures. | Michelle O'Malley | ✓ | | | ✓ | ✓ | |
| 206 | TERO Reimbursement | Reimburse Tribal Employment Rights Ordinance (TERO) fees. In instances where TERO fees are charged, this work element will track the following: All Spreadsheet Budgets must clearly identify the work (type of work), amount, and location(s) of the subcontract work, along with the TERO rate (%) and amount for each subcontract, and cumulative projected TERO fee; Invoices must clearly indicate any amount that is being charged for each subcontract (to which TERO is being applied), the percentage being applied and the amount for that specific subcontract, consistent with the Budget (so as to allow adequate Invoice review). | Mary Haight | ✓ | | | | | |
| 207 | BPA Overhead | BPA Overhead consists of EF&W overhead costs for staff payroll and benefit charges for NEPA, cultural resources and fish and wildlife project implementation. Supplemental labor, awards, travel and training as well as legal consulting charges are incurred in overhead. | Benjamin Dick | | | | ✓ | ✓ | |



Environmental Compliance Work Elements

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|---------------------|--|--|------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 165 | Produce Environmental Compliance Documentation | During an EC's review of a Contract Request (CR) or Change Contract Request (CCR) the EC lead may add milestones to ensure specific EC documents and/or information are provided by the sponsor. | Edward Gresh | ✓ | | ✓ | | | |

Planning and Coordination Work Elements

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| 99 | Outreach and Education | Covers work to educate or communicate with the public. Includes conducting classes, seminars, workshops, training, symposia, and conferences. Excludes work to coordinate with landowners or other direct participants in on-the-ground conservation (include this type of coordination as part of the associated implementation WE), or work to identify and select new projects (WE#114, Identify and Select Projects). | Andre L'Heureux | ✓ | | ✓ | ✓ | | |



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| 114 | Identify and Select Projects | Encompasses tasks by the contractor to identify and assess potential projects, evaluate and prioritize them, and ultimately select the most effective and feasible for implementation. Can include some development activities often associated with habitat restoration programs that coordinate multiple projects within a larger umbrella or programmatic approach. Coordination work that helps identify and select projects or sites should be covered under this work element. | Michelle O'Malley | Optional | | | | ✓ | |
| 115 | Produce Inventory or Assessment | Covers inventories and assessments specifically designed to support future implementation actions. Can include passage inventories, habitat condition inventories, or watershed assessments. Does not cover ongoing passage and habitat monitoring. | Michelle O'Malley | ✓ | ✓ | | ✓ | ✓ | |



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| 119 | Manage and Administer Projects | <p>Covers the administrative and technical work by the contractor to fulfill BPA's programmatic and contractual requirements such as financial reporting (accruals), and development of a contract renewal package (includes SOW, budget, property inventory). Training related to the project should be covered here.</p> <p>Excel Budget - Documentation of subcontract estimates in the line-item (Excel) budget must conform to BPA's requirements for budget detail (i.e., the same as the contractor). BPA highly recommends that solicitations for bids/estimates require subcontractors to conform to BPA standards for detail (rates and units - hours/quantities/volumes, etc.). BPA recommends subcontractor bids be submitted to the contractor electronically in spreadsheet format, and already include actual calculations (e.g., rates * hours, not just textual numbers in cells), so that the contractor can cut and paste subcontract estimates directly into their budget spreadsheet. For more information, see https://www.cbfish.org/EfwDocument.mvc/DownloadFile/6.</p> | Anne Creason | ✓ | | | | | |
| 122 | Provide Technical Review and Recommendation | <p>The review of technical details, including but not limited to engineering plans, restoration plans, project selection, RM&E methods, and deliverable approval. If producing adaptive management recommendations, consider using WE 115 Produce Inventory or Assessment.</p> | Douglas Knapp | ✓ | | | | | |



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| 174 | Produce Plan | This work element is to be used to produce a wide range of plans including but not limited to operation plans, management plans, maintenance plans, implementation plans, restoration plans, research, monitoring, and evaluation (RM&E) plans, Hatchery Genetic Management Plans (HGMPs), hatchery master plans, hatchery fish production plans, feasibility studies, and surveys, as well as site-specific plans and strategic plans that will influence multiple projects. This work element does not include land management plans; see 193: Produce Land Management Plan. When 174: Produce Plan is used in a SOW for producing a Hatchery Master Plan, the contractor should review the NPCC's requirements under their 2015 Step Document, Section V., Elements A & B (contact Council for current website link) to be sure the necessary content is covered in the plan. After the initial submittal of the Master Plan to NPCC, use 196: Council Step Process to account for all costs associated with the NPCC's 3-Step process, such as labor and materials for the submittal of response documents required by the NPCC's 3-step process. | Jennifer Lord | ✓ | ✓ | | | ✓ | |



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| 175 | Produce Design | <p>This work element covers all work associated with design of hatcheries or habitat projects. Relevant milestones include environmental compliance, permitting, bid packages for design, reviewing designs and specifications, bid packages for construction, and budgeting.</p> <p>For hatcheries, use this work element for all design work. For habitat projects, use this work element during design phases for habitat work elements 29. Increase Aquatic and/or Floodplain Complexity, 30. Realign, Connect, and/or Create Channel, 180. Enhance Floodplain/Remove, Modify, Breach Levee/Dike, and 181. Create, Restore, and/or Enhance Wetland. A complete project description including information on how the project was prioritized, habitat/species constraints addressed, and when and how the project will be implemented shall be provided in the work element description. Milestones for work completed in past contracts or planned for future contracts may be omitted.</p> | Douglas Knapp | ✓ | ✓ | | ✓ | ✓ | |
| 189 | Coordination-Columbia Basinwide | <p>Refers to coordination work that covers a large portion of the Columbia River Basin. Coordination which directly supports other project work should be covered in the details of the associated work element. Coordination work which helps identify or select projects and/or sites should be covered under WE#114, Identify and Select Projects. Coordination work related to a subbasin or other small region should be covered under WE#191, Watershed Coordination.</p> | Carlos Matthew | ✓ | | | | | |



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| 191 | Watershed Coordination | Refers to coordination work focused on a local watershed or subbasin. Coordination which directly supports other project work should be covered in the details of the associated work element. Coordination work which helps identify or select projects and/or sites should be covered under WE#114, Identify and Select Projects. | Cecilia Brown | ✓ | | | | | |
| 193 | Produce Land Management Plan | The Land management plans (LMP) will guide management of any real property interest that BPA funds to ensure compliance with the underlying mitigation agreement, if one exists, and any conservation easement granted over that property. BPA typically expects a management plan be prepared for real property interests secured with ratepayer funds. Where properties are near or similar to each other, BPA will support a programmatic planning approach. DURING CREATION OF THE DRAFT LMP USE THE MOST RECENT TEMPLATE LOCATED: https://www.cbfish.org/Help.mvc/GuidanceDocuments . Using the template will ensure smoother acceptance by BPA of the Final plan. Land Management Plans will serve several purposes. First, they become the blueprint for how, when, and where a new property will be enhanced or improved, if necessary. Project proposals, MOAs, and easements provide broad parameters for how a sponsor will manage a site, but in most instances they don't provide much detail--the management plan does. | Tabatha Rood | ✓ | | | ✓ | | |



Land management plans should identify each species or habitat of interest on the property, each prohibition in the easement, each reserved right or allowed action in the easement, and any restrictions or reservations from applicable MOAs. The management plan should then discuss each of those elements and explain how the sponsor will manage for that element. For a sensitive species, for example, the plan should state where and when the manager will take specific actions to protect and enhance that species. For specific prohibitions in an easement—for example, no livestock grazing—the plan will discuss any limited and approved exceptions to the prohibition; e.g., the manager might plan to try using goats to control Himalayan blackberries.

Reporting Work Elements

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| 132 | Produce (Annual) Progress Report | <p>This work element covers written reports of results that are submitted to BPA for dissemination to the public. These progress reports may cover less than a year or multiple years. Progress reports come in three types, RM&E Technical Progress Report, Non-technical Progress Report, and Hybrid Progress Report</p> | Matthew Schwartz | Optional | ✓ |
| | | <p>RM&E Technical Progress Reports are used for contracts that have RM&E work elements (WE#156, Develop RM&E Methods and Designs, WE#157, Collect/Generate/Validate Field and Lab Data, WE#162, Analyze/Interpret Data).</p> | | | |
| | | <p>Non-technical Progress Reports are used for contracts that have no RM&E work elements.</p> | | | |
| | | <p>Hybrid Progress Reports are used for contracts that have RM&E work elements (WE#156, Develop RM&E Methods and Designs, WE#157, Collect/Generate/Validate Field and Lab Data, WE#162, Analyze/Interpret Data), as well as other work elements. Work with your COTR and the RME Support team to determine appropriate due dates and format for Hybrid reports. For example you may have separate chapters for RM&E, habitat restoration, and O&M activities.</p> | | | |
| | | <p>Work with your COTR and the RME support team if you have a question regarding which report type is most suitable for your project.</p> | | | |
| | | <p>Reports should be submitted using the most recent BPA reporting guidance & templates available at https://www.cbfish.org/Help.mvc/GuidanceDocuments</p> | | | |
| | | <p>Once uploaded in Pisces, a progress report will be finalized by BPA with an identification number, and then made publicly available via https://www.cbfish.org.</p> | | | |



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| 141 | Produce Other Report | This work element covers any report required or produced for a contract, except those specifically covered under other work elements (e.g., WE#132, Produce (Annual) Progress Report, WE#183, Produce Journal Article, WE#185, Produce Pisces Status Report, or WE#202, Produce BiOp RPA Report). If this work element is used for multiple reports in the same contract, then each report should be listed as a separate milestone. | Amy Mai | ✓ | | | | | |
| 185 | Produce Pisces Status Report | This work element covers the reporting of status of milestones and deliverables in each contract. These milestone status reports shall be completed either monthly or quarterly as negotiated between the contractor and COTR. For any other type of status report required or produced for a contract, use WE#141, Produce Other Report - except those specifically covered under other work elements (e.g., WE#132, Produce (Annual) Progress Report, or WE#183, Produce Journal Article). | Gerald McClintock | | | | | | |
| 202 | Produce BiOp RPA Report | For projects associated with reasonable and prudent alternatives (RPAs) supporting research, monitoring, and evaluation (i.e., RPAs 50-73), submit an online report through cbfish.org describing how your project helps BPA demonstrate ESA Biological Opinion (BiOp) compliance for your associated RPAs. For projects with multiple contractors, all contracts will need to contribute, but only one report for each project is needed. | Jody Lando | ✓ | | | | | |



Habitat Improvement Work Elements

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|----|---|--|-------------------------------|---|---|---|---|---|
| 29 | Increase Aquatic and/or Floodplain Complexity | <p>This work element is intended for the placement of natural materials instream to create habitat features or to improve channel morphology. Actions include placement of large woody debris (LWD), constructed riffle features and boulder placements. It also includes improving complexity by creation of pools or fish spawning habitat by addition of gravel. Complexity structures are typically used in stream reaches that have been determined to have limited natural tendencies to foster the new development of, or the ability to maintain, existing natural habitat features. For example, structures are often placed to improve the habitat variability for fish in otherwise uniform flow conditions. Objectives of these actions can include the creation – maintenance of scour pools, influencing channel sinuosity and hydraulic complexity, recruitment and retention of additional wood and gravel, sorting of gravels and support hydrologic connectivity between the channel and floodplain.</p> | Douglas Knapp | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | <p>When this WE is used, the contract must also include WE#175, Produce Design . If structures are being added to resolve a fish passage barrier, use WE#184, Install Fish Passage Structure . If maintaining an existing structure, use WE#186, Operate and Maintain Habitat/Passage/Structure . If work involves only plantings, use WE#47, Plant Vegetation . If other methods are used to control erosion in the riparian and upland zones, use WE#55, Erosion and Sedimentation Control . This work element should not be used for bank stabilization unless it is part of a larger habitat or complexity action.</p> | | | | | | |



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| 30 | Realign, Connect, and/or Create Channel | <p>This work element is intended for adding sinuosity, meanders, side channels, and/or off-channel habitats (e.g., sloughs or oxbows). Actions include reconnection of historical channels, excavation of new channels, or actions that significantly alter channel planform, profile, and cross-section. Channel modifications should create diverse habitats (pools, riffles, glides and runs) while retaining characteristic features and forms over time. These actions should increase stream channel and/or side channel length and acreage. This WE may be the main emphasis of an aquatic habitat restoration project, or part of a larger habitat project.</p> <p>When this WE is used, the contract must also include WE#175, Produce Design . If work is solely to add structures/features within the existing channel, then use WE#29, Increase Aquatic and/or Floodplain Complexity . If structures are being added to resolve a fish passage barrier, use WE#184, Install Fish Passage Structure . If work is to create, restore, or enhance wetland function then use WE#181, Create, Restore, and/or Enhance Wetland</p> | Sean Welch | ✓ | ✓ | ✓ | ✓ | ✓ | |



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| 33 | Decommission Road/Relocate Road | Any activity that makes a road or trail unusable including adding berms, pits, boulders or logs, and/or ripping, scarifying, recontouring, or obliterating the road or trail with heavy equipment that may involve re-contouring the slope. Also use for building a road or trail in a more appropriate location to replace a decommissioned road or trail. If decommissioning by planting vegetation or seeding use WE#47, Plant Vegetation. If removal of fish barrier (e.g., culvert) is included, also use WE#84, Remove/Install Diversion, WE#85, Remove/Breach Fish Passage Barrier, or WE#184, Install Fish Passage Structure. If work also involves channel realignment, use WE#30, Realign, Connect, and/or Create Channel in addition to this work element. | Cecilia Brown | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 34 | Develop Alternative Water Source | Provision of water supply for livestock that is out of the water zone and at a distance beyond that which may affect the conditions of the water body. Includes, but not limited to, watering troughs, spring and well development, and guzzler installation. | Sandra Fife | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 35 | Develop Pond | Develop a pond and its surrounding habitat for resident fish and/or waterfowl. May involve the installation of a water control structure or excavation. Does not apply to sediment control ponds (WE#55, Erosion and Sedimentation Control), acclimation ponds (WE#171, Build, Modify, and/or Refurbish Artificial Production Facility), or wetlands (WE#181, Create, Restore, and/or Enhance Wetland). | Virgil Watts III | ✓ | ✓ | | ✓ | ✓ | |



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| 36 | Develop Terrestrial Habitat Features | Includes the installation and/or creation of structures for the benefit of wildlife species, including, but not limited to, nest boxes/platforms, avian perches, snags, guzzlers, and artificial roosting sites. | Hannah Dondy-Kaplan | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 38 | Improve Road for Instream Habitat Benefits | Work designed to eliminate or reduce erosion, sediment, and/or toxic run-off from reaching streams, rivers, or wetlands from roads or trails currently in use. This includes road projects that reduce or eliminate inter-basin transfer of water, placement of structures to contain/ control runoff from roads or trails, road or trail reconstruction or reinforcement, surface and peak-flow drainage improvements, and roadside vegetation. These roads may be in or extend into the riparian zone. | Cecilia Brown | ✓ | ✓ | ✓ | ✓ | ✓ | |



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| 40 | Install Fence | <p>Work to install various types of fence and/or gates for habitat improvement. If applicable, include cattle guards or water gaps for livestock as part of the deliverable. For riparian fencing, BPA recommends project sponsors include 50+ foot riparian buffers, or wider, based on the stream type, site specific dynamics, and current research. This work is not generally intended to be used for upland fencing for pasture rotation purposes. Upland fencing for fish will be considered on a case by case basis. Upland fencing is authorized for parcels managed for wildlife if this is part of a management plan to exclude livestock. WE#40, Install Fence should not be used for non-habitat purposes such as securing equipment or property; instead, use a milestone under the work element for which the property or equipment is used. WE#40, Install Fence should not be used for protection of new plantings; instead, use a milestone under WE#47, Plant Vegetation or WE#198, Maintain Vegetation.</p> <p>If work is to repair a fence or exclusion device, use WE#186, Operate and Maintain Habitat/Passage/Structure . If a lease or other land use agreement of greater than 15 years is completed as part of the fence installation, you must also use WE#92, Lease Land in addition to WE#40, Install Fence (i.e., if you have an agreement for less than 15 years, only use WE#40, Install Fence). For a renewal of a lease or land use agreement that extends the period of protection, you must use WE#92, Lease Land instead of WE#40, Install Fence.</p> | Jesse Wilson | ✓ | ✓ | ✓ | ✓ | ✓ | |



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| 44 | Enhance Nutrients in Water Bodies | Addition of fish carcasses, or direct nutrient introduction methods to improve biological diversity in streams, rivers, or lakes. | Jennifer Lord | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 47 | Plant Vegetation | <p>Use during the first year (and only first year) of planting terrestrial or aquatic vegetation and/or seed (aerially, mechanically, and/or manually). Use for wildlife cover and forage enhancement, erosion control and soil stabilization, roughness recruitment, shading, restoring native habitat, wildfire restoration, and rehabilitating removed roads/trails. Do not use for site stabilization/restoration immediately following construction. Post-construction planting/seeding should be a milestone in a construction work element.</p> <p>All maintenance activities (irrigation, site prep, survival survey) which occur during the same contract period as planting/seeding should be included in this WE as milestones. See associated work elements and notes for this WE#47, Plant Vegetation for more guidance.</p> | Jesse Wilson | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 48 | Practice No-till and Conservation Tillage Systems | Includes establishing conservation tillage systems that focus on increased crop residue during subsequent crop seeding, and/or the reduction or elimination of traditional tilling practices. Work may also include the purchase of chaff chopper/spreaders and other equipment (generally co-operatively purchased) designed to aid in no- or reduced- till operations and crop residue enhancement. | Cecilia Brown | ✓ | ✓ | ✓ | ✓ | ✓ | |



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| 52 | Remove Mine Tailings | <p>Work to remove or re-contour remnant landscape effects from old mining operations. Could be terrestrial or aquatic in nature.</p> <p>If work also creates wetland or modifies channel use WE#181, Create, Restore, and/or Enhance Wetland and WE#30, Realign, Connect, and/or Create Channel.</p> | Jennifer Lord | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 55 | Erosion and Sedimentation Control | <p>This is work that occurs in the riparian and upland zones, which may include the installation of water bars, gully plugs and culvert outlets, grassed waterways, grade stabilization structures, sediment catchment ponds/basins, regrading or terracing, and removal of drainage pipes and other blockages specifically to prevent erosion, sediment slumps, or landslides. This WE does not include improvements to roads or the planting of vegetation in applications other than surface soils stabilization. For that work, use WE#38, Improve Road for Instream Habitat Benefits or WE#47, Plant Vegetation, respectively.</p> | Timothy Ludington | ✓ | ✓ | ✓ | ✓ | ✓ | |



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| 180 | Enhance Floodplain/Remove, Modify, Breach Dike | <p>This work element is intended for the full or partial removal, breaching, lowering, and/or relocation/set-back of artificial levees or dikes adjacent to streams and estuaries for the purpose of floodplain, riparian habitat improvements. This WE may be the main emphasis of a stream habitat restoration project, or it may be a component of a broader set of techniques implemented in concert which collectively define a project.</p> <p>When this WE is used, the contract must also include WE#175, Produce Design . If the work includes improvement of fish passage into upstream reaches of the existing channel, then use WE#84, Remove/Install Diversion , WE#85, Remove/Breach Fish Passage Barrier , or WE#184, Install Fish Passage Structure . If work is to create, restore, or enhance wetland function then use WE#181, Create, Restore, and/or Enhance Wetland .</p> | Joseph Connor | ✓ | ✓ | ✓ | ✓ | ✓ | |



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|-----|---|---|------------------------------|---|---|---|---|---|
| 181 | Create, Restore, and/or Enhance Wetland | <p>This work element is intended for the creation, restoration, or enhancement of wetland hydrologic, water quality, or habitat functions. Actions include installation of a water control structure, re-contouring, or floodplain reconnection . Wetland creation (establishment) is the manipulation of physical, chemical, and biological characteristics to develop a wetland on a site where one did not previously exist. Creation results in a gain in wetland acres. Wetland restoration (re-establishment) is the manipulation of the physical, chemical, and/or biological characteristics of a site with the goal of returning natural/historic functions to former wetlands that may have been filled, subsided, or impacted by hydrologic alterations. Restoration reestablishes a former wetland and results in a gain in wetland acres. Wetland enhancement is the manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing degraded wetland functions. Wetland enhancement typically involves the manipulation of site characteristics to improve hydrologic, water quality, or habitat functions but does not result in a gain in wetland acreage. This WE may be the main emphasis of a stream/wetland restoration project, or it may be a component of a broader set of techniques implemented in concert which collectively define a project.</p> <p>When this WE is used, the contract must also include WE#175, Produce Design . If additional actions or techniques are implemented, make sure you properly document associated work elements, e.g., WE#180, Enhance Floodplain/Remove, Modify, Breach Dike , WE#184, Install Fish Passage Structure , or WE#29, Increase Aquatic and/or Floodplain Complexity , WE#30, Realign, Connect, and/or Create Channel , or WE#35, Develop Pond .</p> | Jesse Wilson | ✓ | ✓ | ✓ | ✓ | ✓ |
|-----|---|---|------------------------------|---|---|---|---|---|



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| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|---|---|------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 190 | Remove, Exclude and/or Relocate Animals | <p>Removal or relocation of fish and wildlife species and/or any actions employed to exclude non-native or undesirable fish and wildlife species from a particular area.</p> <p>Roundup and exclusion of animals protected by the Wild Free-Roaming Horses and Burros Protection Act of 1971 is not approved under the BPA Fish and Wildlife Mitigation Program.</p> <p>For California sea lions, "removal" and "exclusion" only includes non-lethal hazing. For trapping California sea lions for the sole purpose of tagging, use WE#158, Mark/Tag Animals. Examples of "removal" of fish and wildlife species include the removal of bullfrog egg masses and adults or removal of northern pikeminnows. Examples of "exclusion" activities include the installation of a fish passage barrier to exclude non-native fish from high mountain lakes. Fencing activities designed to "exclude" livestock should use WE#40, Install Fence. An example of a "relocation" activity includes the relocation of beavers.</p> | Anne Creason | ✓ | ✓ | ✓ | ✓ | ✓ | |



Habitat Improvement Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|-----------------------------------|---|------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 199 | Remove Vegetation | <p>Use during the initial year of treating a site if removing one or more plant species, or a number of individuals of a plant species, by mechanical, biological, and/or chemical means, or by controlled burn.</p> <p>Target species are often exotic or non-native plants, naturalized plants, or undesirable native plants, all of which may be considered to be noxious, invasive or "weeds". Includes the removal of both aquatic and terrestrial plants as well as tree stand manipulation due to encroachment or to create forage openings.</p> | Jesse Wilson | ✓ | ✓ | ✓ | ✓ | ✓ | |

Habitat/Passage O&M Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|--------------------|--------------------------------------|--|-----------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 26 | Investigate Trespass | Efforts involved with establishing whether trespass is occurring (human or livestock). For fence maintenance use WE#186, Operate and Maintain Habitat/Passage/Structure. | Michelle O'Malley | ✓ | | | ✓ | ✓ | |
| 27 | Remove Debris | Removal of items such as trash, old buildings, and abandoned equipment from water or land. Does not include removal of a diversion or instream structure. For removal of organic matter when cleaning screens, use WE#186, Operate and Maintain Habitat/Passage/Structure. | Michelle O'Malley | ✓ | ✓ | ✓ | ✓ | ✓ | |



Habitat/Passage O&M Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|--------------------|-------------------------------|--|---------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 28 | Trap and Haul | Work to capture and transport fish, including kelts, usually by means of trucking or barging for the purpose of assisting upstream and/or downstream migration, fish salvage operations, or re-establishing a population in different tributaries. If trapping and hauling for predator control, use WE#190, Remove, Exclude and/or Relocate Animals. If installing a fish trap, use WE#70, Install Fish Monitoring Equipment. | Eric Leitzinger | ✓ | ✓ | ✓ | ✓ | ✓ | |



| | | | | | | | | |
|-----|--|--|----------------------------------|---|---|---|---|---|
| 186 | Operate and Maintain Habitat/Passage/Structure | <p>The inspection, operation, and maintenance of habitat features including, but not limited to, fences, instream structures, passage facilities, sediment control structures, and off-site water developments. Not limited to instream habitat work, but includes maintenance of residences, sheds, barns, and other buildings. This work element is not for work that would increase the footprint of existing structures or habitat features.</p> | Matthew Schwartz | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | <p>Inspection includes visual surveys, photo points, and physical parameters to assure habitat structure is functioning as intended. Use 188. Provide Access and Public Information for maintenance of access roads, parking areas, signs, and kiosks. Use 61. Maintain Artificial Production Facility/Infrastructure, for operation and maintenance of facilities and structures associated with hatcheries. Use 198. Maintain Vegetation for vegetation maintenance.</p> | | | | | | |
| | | <p>In known or potential lamprey habitat use guidance from these documents:</p> | | | | | | |
| | | <p>Guidelines to Minimize Impacts and Maximize Benefits for Native Lamprey During In-water Work https://www.fws.gov/pacificlamprey/BPALampreyGuidanceDocuments.cfm</p> | | | | | | |
| | | <p>Pacific Lamprey Habitat Restoration Guide https://www.fws.gov/pacificlamprey/BPALampreyGuidanceDocuments.cfm</p> | | | | | | |
| | | <p>Lamprey presence can be determined from Data Basin map https://www.fws.gov/pacificlamprey/BPALampreyGuidanceDocuments.cfm. This map does not show all distribution due to limited data. Pre-project lamprey surveys should be done (see USFWS lamprey Guidelines document) if the map does not show presence.</p> | | | | | | |



Habitat/Passage O&M Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|---|--|-------------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 188 | Provide Access and Public Information | Installation and/or maintenance of signs, kiosks, information boards, access roads, trails, road closures, and parking areas. You should use this WE for trespass signing rather than WE#26, Investigate Trespass. Also, WE#61, Maintain Artificial Production Facility/Infrastructure, should be used for this kind of work pertaining to hatchery operations and WE#38, Improve Road for Instream Habitat Benefits, should be used for road work associated with habitat improvement by reducing erosion. | Hannah Dondy-Kaplan | ✓ | ✓ | | ✓ | | |
| 192 | Law Enforcement | Provide enforcement activities on mainstems and tributaries, including two primary components: (1) reduce illegal take of Columbia Basin fish & wildlife, and (2) enforce habitat rules and regulations. Enforcement officers will enforce fisheries and habitat regulations, providing protection against illegal takes on resident fish, anadromous fish, and Columbia River salmon species throughout their life cycle, i.e., "gravel to gravel," with an emphasis on weak stocks passing through the hydro-power corridor into tributary streams and critical habitats. This WE should also be used when purchasing enforcement support equipment, e.g., boats, vehicles, radios, etc. | Tracy Hauser | ✓ | | ✓ | ✓ | ✓ | |



Habitat/Passage O&M Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|-------------------------------------|---|------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 198 | Maintain Vegetation | <p>Maintain planted or pre-existing vegetation through physical, chemical, mechanical, and/or biological activities such as scalping, installing mats or mulch, mowing, irrigating, fertilizing, applying herbicide(s), burning, using Integrated Pest Management (IPM), preventing or reducing animal damage (browse repellents, tree tubes). This includes using different, or the same, treatment techniques in previously treated areas the second year, or later, of planting.</p> <p>Vegetation maintenance activities which occur during the first (initial) year of planting (such as installing tree tubes, fertilizing, animal repellents, etc.) should be a milestone under WE#47, Plant Vegetation.</p> | Jesse Wilson | ✓ | ✓ | ✓ | ✓ | ✓ | |



Habitat/Passage O&M Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|---|---|---------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 208 | Irrigation Infrastructure Construction or Replacement | <p>All actions related to the construction and installation of irrigation infrastructure for the purpose of fish and wildlife conservation. Includes fish screens (and related infrastructure such as concrete, gantries, solar panels, bypass pipe, etc.), headgates, flow measuring devices, irrigation diversions, siphons, wells, piping, pumps, and fish passage structures associated with irrigation diversions. The design of complex or large-scale screens is typically a separate work element. See WE#175, Produce Design.</p> <p>In known or potential lamprey habitat use guidance from these documents:</p> <p>Guidelines to Minimize Impacts and Maximize Benefits for Native Lamprey During In-water Work https://www.fws.gov/pacificlamprey/BPALampreyGuidanceDocuments.cfm</p> <p>Pacific Lamprey Habitat Restoration Guide https://www.fws.gov/pacificlamprey/BPALampreyGuidanceDocuments.cfm.</p> <p>Lamprey presence can be determined from Data Basin map https://www.fws.gov/pacificlamprey/BPALampreyGuidanceDocuments.cfm. This map does not show all distribution due to limited data. Pre-project lamprey surveys should be done (see USFWS lamprey Guidelines document) if the map does not show presence.</p> | Eric Leitzinger | ✓ | ✓ | ✓ | ✓ | ✓ | |



Instream Passage Improvement Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|--|--|---------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 85 | Remove/Breach Fish Passage Barrier | Work that facilitates fish passage over a human-made barrier by breaching or removal without replacement. This includes dams, weirs, fish ladders, tidegates, culverts, bridges, and road crossings. If the dam is part of a diversion, use WE#208, Irrigation Infrastructure Construction or Replacement. If installing a fish passage structure at the same location, use WE#184, Install Fish Passage Structure, and have removal of the passage barrier as a milestone under that work element. | Eric Leitzinger | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 184 | Install Fish Passage Structure | <p>Install, replace, or modify structures when the intent is to improve fish passage and/or flow, typically by removing or modifying a full or partial instream barrier. "Structures" include fish ladders, bridges, culverts, jump pools, roughened channels, and weirs. "Barriers" include such obstacles to fish passage as tidegates, weirs, culverts, rock fords, road crossings, and manmade dams. Structures also include natural barriers such as logjams and natural streambeds.</p> <p>This work element excludes diversion dams. Use WE#208, Irrigation Infrastructure Construction or Replacement for diversion dam removal, and include this work as a milestone under this WE.</p> <p>Where anadromous fish are present, structures installed must meet current NOAA specifications and USFWS specifications for lamprey and bull trout respectively. Use WE#180, Enhance Floodplain/Remove, Modify,</p> | Douglas Knapp | ✓ | ✓ | ✓ | ✓ | ✓ | |



Breach Dike if the installation of a passage structure is associated with a dike removal, breaching, and modification, and may create additional acres of habitat as well as providing access to instream habitat. Use WE#70, Install Fish Monitoring Equipment, for weirs installed primarily to restrict fish passage for the purpose of monitoring or collecting fish (e.g., picket weirs). Design of complex or large-scale fish passage structures is often a separate work element (see WE#175, Produce Design).

In known or potential lamprey habitat use guidance from these documents:

Guidelines to Minimize Impacts and Maximize Benefits for Native Lamprey During In-water Work
<https://www.fws.gov/pacificlamprey/BPALampreyGuidanceDocuments.cfm>

Pacific Lamprey Habitat Restoration Guide
<https://www.fws.gov/pacificlamprey/BPALampreyGuidanceDocuments.cfm>.

Lamprey presence can be determined from Data Basin map
<https://www.fws.gov/pacificlamprey/BPALampreyGuidanceDocuments.cfm>.
This map does not show all distribution due to limited data. Pre-project lamprey surveys should be done (see USFWS lamprey Guidelines document) if the map does not show presence.



Land Acquisition / Conservation Easement Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|--|--|-------------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 6 | TBL Work | This is a BPA Internal-use only work element. BPA uses this work element for any work the Transmission Business Line (TBL) provides in support of a fish and wildlife project. May include appraisal review, appraisals, help in development of an MOA, real estate negotiations, survey/photogrammetry, and GIS work. Additionally, relocation costs associated with a land purchase are captured here. | Gerald McClintock | ✓ | | | ✓ | | |
| 87 | Prepare HEP Report | Efforts leading to a report to present the findings of the Habitat Evaluation Procedure (HEP) survey conducted by the Regional HEP team. | Sandra Fife | ✓ | | | ✓ | ✓ | |
| 92 | Lease Land | Includes riparian, grazing, and multiple-use leases, typically for multiple years. | Corrie Veenstra | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 172 | Conduct Pre-Acquisition Activities | This work element includes the majority of the steps that are required before fee title or a conservation easement can be acquired for a tract of land. The steps include: perform appraisal, title searches, hazardous waste assessment, and land boundary surveys; provide legal descriptions; and identify minimum habitat units. For easements, this work element would also define the easement terms and conditions. | Hannah Dondy-Kaplan | ✓ | | | ✓ | ✓ | |



Hatchery / Major Construction Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|--|---|----------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 100 | Construction Management | Oversight of construction, including activities ranging from conducting daily construction observation, to providing professional on-site inspection services, to construction management support, including contractor daily-log review; RFI review and responses; submittal review and responses; and key site observations, such as reinforcement inspection, concrete pour observation, and facility start-up. Usually this WE is used only on larger construction activities (\$250,000 or greater value) and/or where construction management is deemed to be important or complex enough to warrant splitting it out in a separate contract from the actual construction work. ALSO USE THIS WE IF THE ON-THE-GROUND WORK IS BEING DONE WITH NON-BPA FUNDS, AND THE BPA CONTRIBUTION IS OVERSIGHT ONLY. | Jennifer Lord | ✓ | | | | ✓ | |
| 171 | Build, Modify, and/or Refurbish Artificial Production Facility | This work element covers all work associated with the planning and construction of a new hatchery, or modification, major maintenance, or addition to an existing facility. This includes construction of any structural component of an artificial production facility, and real property alterations associated with the site or satellite facilities. For example: incubation rooms, rearing tanks/ponds, raceways, acclimation ponds, holding ponds, pumps, wells or other water supply, hatchery offices, staff housing, roads, asphalt, etc. | Maureen Kavanagh | ✓ | ✓ | | ✓ | ✓ | |



Hatchery / Major Construction Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|--------------------------------------|---|-------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 196 | Council Step Process | <p>Projects that fall under the Council's 3-Step Review Process include artificial production programs/facilities, other major or complex construction programs, programs that address an entire watershed, or actions that substantially deviate from a subbasin plan.</p> <p>Use WE#196, Council Step Process to cover labor and materials for the submission of documents required by the NPCC's 3-step process. This WE should be used for all activities necessary to coordinate through the Council's review process including, responding to Council/ISRP questions, developing and providing additional materials, attending meetings with Council/ISRP, and making appropriate revisions to receive acceptance and approvals to proceed to next steps. If you are formulating a Master Plan, utilize WE#174, Produce Plan . Work Element 196 should not be used until the draft Master Plan (developed under 174) has undergone collaborative review by the project partner and BPA.</p> <p>The contractor should review the NPCC's requirements under their 2015 Step Document, Section V., Elements A & B (contact the Council for the current link) to be familiar with specific NPCC milestones.</p> | Amy Mai | Optional | | | | ✓ | |



Hatchery O&M Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|--------------------|--|--|----------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 60 | Maintain Fish Health | Includes the work performed under contracts solely for fish health maintenance, such as fish health monitoring, pathology sampling, laboratory processing of samples, and consultation with fish health professionals. The work may be performed at the hatchery or in the natural environment, and for hatchery or non-hatchery fish. If the full range of hatchery fish culture activities is performed under a contract, use 176. Produce Hatchery Fish instead. | Deborah Docherty | ✓ | ✓ | | ✓ | ✓ | |
| 61 | Maintain Artificial Production Facility/Infrastructure | <p>Includes all minor maintenance and repair activities associated with fish production facilities, including maintenance of buildings, grounds, raceways, acclimation ponds, net pens, water treatment facilities, equipment, vehicles, etc.</p> <p>Do NOT use WE#61, Maintain Artificial Production Facility/Infrastructure if you are hiring a subcontractor to replace existing infrastructure (e.g., re-grade a road, replace house windows, remove and rebuild a raceway wall), instead, please use WE#171, Build, Modify, and/or Refurbish Artificial Production Facility. 61. Maintain Hatchery is intended to include activities related to care of physical structures and grounds and not the care of fish. Work to produce fish would be under WE#176, Produce Hatchery Fish.</p> <p>All significant actions in response to emergencies must be reported to the CO and COTR by email and phone call as soon as is practical (i.e., after life and property are secured).</p> | Deborah Docherty | ✓ | ✓ | | ✓ | ✓ | |



Hatchery O&M Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|---|---|-----------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 66 | Trap/Collect/Hold/Transport Fish - Hatchery | Includes work performed under contracts solely for trapping, collecting, transporting, and/or holding fish (all life history stages) for inclusion in a fish culture program. If the full range of fish culture activities is performed under a contract, use WE#176, Produce Hatchery Fish, with milestones for trapping, collecting, transporting, and/or holding fish, as appropriate. | Eric McOmie | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 176 | Produce Hatchery Fish | This work element includes the fish culture activities associated with a "typical" hatchery O&M contract: obtaining broodstock, spawning broodstock, incubating fertilized eggs, maintaining fish health, rearing juveniles, acclimating juveniles prior to release, releasing juveniles into a stream or lake (either onsite or from a separate acclimation facility), and transportation of fish or eggs between various locations. O&M contractors should use this work element, "Produce Hatchery Fish," along with WE#61, Maintain Artificial Production Facility/Infrastructure, in their SOWs. Use WE#60, Maintain Fish Health, if you are ONLY performing fish health activities under your contract. Unless there are unusual circumstances, use only one work element per species and brood year. | Eric McOmie | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 187 | Put and Take Fisheries | The stocking of a pond, lake or reservoir with hatchery reared fish for recreational fishing purposes. This includes the transport and stocking of the fish, and the operation and maintenance of the recreational facilities, e.g., bathrooms and access roads. Use a separate work element for each species. | Eric McOmie | ✓ | ✓ | ✓ | ✓ | ✓ | |



RM & E and Data Management Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|--------------------|---|---|------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 70 | Install Fish Monitoring Equipment | <p>This work element should be used as little as possible and has been reserved almost exclusively for the PTAGIS project, which installs fish monitoring equipment for use by NOAA Fisheries and the Army Corps of Engineers. Please contact your COTR before adding this work element into your SOW.</p> <p>In most instances, rotary screw trap installation (and removal) should be a milestone under the WE for which the equipment will be used, typically 157. Collect/Generate/Validate Field and Lab Data, or 158. Mark/Tag Animals.</p> <p>This work element should be used as little as possible, since BPA needs to track the true cost and effort needed to collect data or mark animals. The PTAGIS project is the exception to this, which installs fish monitoring equipment for use by NOAA Fisheries and the Army Corps of Engineers.</p> | Martin Allen | ✓ | ✓ | | ✓ | ✓ | |



RM & E and Data Management Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|--|---|------------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 156 | Develop RM&E Methods and Designs | Work to identify and/or develop monitoring methods, designs, or associated tools. This includes statistical and sampling designs; protocols for field or remote sampling, data analysis, lab procedure, reporting standards, and quality assurance/quality control; development of data definitions and metadata; conceptual or simulation models; software development; tagging and other monitoring equipment; and generally any other work that prepares for the implementation of actual data collection/generation. Protocols, including temporal and spatial designs, data collection and analysis methods, and related metrics or indicators, will be "Published" in monitoringresources.org. Does not apply to producing an RM&E plan itself (see WE#174, Produce Plan). Does not apply to models that are developed in the course of analyzing and interpreting existing data, such as multivariate models (see WE#162, Analyze/Interpret Data). Do not use this WE to describe field training activities. Instead, use the WE that applies to the activity to be conducted. Eg. Electrofishing should be in WE #157 | Christine Petersen | ✓ | ✓ | | | | ✓ |



| | | | | | | | | | | |
|-----|--|---|-----------------------------------|---|---|---|---|---|---|--|
| 157 | Collect/Generate/Validate Field and Lab Data | Collect, generate, or capture source or empirical data; enter data into a computer spreadsheet/database; use automated data capture programs/routines and related hardware/software (e.g., PDAs, data loggers, thermographs); prepare or compile metadata; implement quality assurance/quality control (QA/QC) processes. | Timothy Ludington | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| | | Includes the collection and processing of field samples/specimens (e.g., tissue, macroinvertebrate, or water quality samples), remote sensing data, and the subsequent laboratory processing of field samples/specimens and generation of data summaries. | | | | | | | | |
| | | This work element may include the installation of a weir, trap, electronic portal, water measuring device, or other equipment or facility used to monitor fish passage, collect juvenile or adult fish, or collect other data. Installation of such equipment should be a milestone in the work element. | | | | | | | | |
| | | <p>Do NOT use this work element for the following types of work:</p> <ul style="list-style-type: none"> • if you are marking or tagging animals, you must use WE#158, Mark/Tag Animals, • data analysis or interpretation requires WE#162, Analyze/Interpret Data, • validation of completion and intended performance of implemented actions, or verification of Pisces metrics should be captured under the appropriate implementation work element (e.g., fence or culvert installation, habitat improvement, construction), • visual surveys, photo points, and inspection of physical parameters to assure habitat structures are functioning as intended should be captured under WE#186, Operate and Maintain Habitat/Passage/Structure. | | | | | | | | |



[158](#) [Mark/Tag Animals](#)

Covers activities integral to placing marks/tags on animals. Recognizing that this is a subset of data collection/generation, it has been separated to facilitate tracking the sometimes-significant costs associated with animal marking/tagging.

[Martin Allen](#)

✓ ✓ ✓ ✓ ✓

This also covers Installation of a weir, trap, electronic portal, or other equipment or facility used to monitor fish passage or to collect juvenile or adult fish. This describes the installation of relatively permanent fixed facilities as well as more mobile equipment, like rotary screw traps for smolts.

This work element includes capture and bio-sampling activities when they support a primary purpose of placing the mark/tag. It also includes monitoring the effects of the mark/tag on the animals (e.g., tagging mortality), the mark/tag retention/detectability, other QA/QC for the mark/tag data, and creation of associated metadata. It does not include capture activities when the primary purpose is to collect biological data, and does not include subsequent mark/tag observations and analysis.

When tagging fish, a separate instance of WE#158, Mark/Tag Animals must be used for different species. Also, if the marks are different by life stage (juveniles vs. adults), you should use a separate instance of WE#158, Mark/Tag Animals for each life stage. Insertion of a CWT in fry, followed by insertion of a PIT tag in the same fish as a parr, would be considered as both occurring under the "juvenile" life stage, and thus could be covered under the same WE#158, Mark/Tag Animals.

If the marks will be applied to fish in a closed system, and fish will not be released, simply include your marking/tagging technique as a



milestone under WE#157,
Collect/Generate/Validate Field and
Lab Data.

For the use of this WE, a tag/mark is
defined as something that is applied or
done to the animal. "Genetic tags" do
not fit this definition. Genetic sampling
should be addressed under WE#157,
Collect/Generate/Validate Field and
Lab Data.

| | | | | | | |
|-----|---|---|----------------------------------|---|---|---|
| 159 | Transfer/Consolidate Regionally Standardized Data | <p>This work is for transferring or reformatting data from one spreadsheet/database to another, typically primary data from a field or lab site to a higher-level, secondary regional or national database. This may also include derived data if such data are calculated by entities other than the secondary database. It includes both the act of sending and receiving, hardware/software needs for automated uploads/downloads (e.g., transmission and relay links for regular nightly uploads from remote telemonitoring sites), the development and application of data exchange protocols (including QA/QC), and any formatting and documentation required to make the transfer. It does not include initial data entry but it does include manipulating (e.g., reformatting and, if appropriate, georeferencing) data at the receiving end.</p> <p>This work element explicitly reinforces the importance of transferring data to databases where they will be maintained and accessible. Capturing data above the field or lab level includes acquisition in electronic formats, entering data into a computer from historical records, digitizing images, and other methods for converting information to digital format for later dissemination or analysis. This work element may include generating secondary/derived data when those data are stored in regional databases for access and use by other parties.</p> | Russell Scranton | ✓ | ✓ | ✓ |
|-----|---|---|----------------------------------|---|---|---|



RM & E and Data Management Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|---|---|----------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 160 | Create/Manage/Maintain Database | Any work that maintains or improves the security, quality, accessibility, or utility of data. Includes creation of relational databases; creation of computer applications to manage data, creation of standardized data formats, management of the data within the database, database hardware/software maintenance and improvement, QA/QC, building and maintaining connectivity with interrelated applications (e.g., GIS), integrating with distributed information management systems using industry standards for discovery (i.e., web portals) and creation of metadata/documentation and user-support materials for the consolidated data, etc. This applies both to larger regional, secondary databases and to local primary databases (can include spreadsheets) maintained on desktops for individual projects. Does not include generation of data queries or reports, except for internal data management and QA. | Russell Scranton | ✓ | | | | | ✓ |



RM & E and Data Management Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|--|---|----------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 161 | Disseminate Raw/Summary Data and Results | All work that makes data and information available to others, except for written products covered specifically by other work elements. Includes maps, data query systems, internet data distribution (including online data query systems and web services), development and use of online data display tools, library and archival services, integration with distributed information management systems using industry standards for data display and analysis, and oral and abstract presentations of results to professional audiences. For regional data management projects this can include dissemination of information about the purpose, functions and tools of the data management projects themselves. For outreach and education to students, the general public, and other non-professional audiences, see WE#99, Outreach and Education. | Russell Scranton | ✓ | | | | ✓ | |



RM & E and Data Management Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|--|--|-----------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 162 | Analyze/Interpret Data | Data analysis that goes beyond generation of data summaries from data collected or generated in the field or through remote sensing. These activities apply analytical tools to derive variables, or indicators to inform management decisions. Often involving tests of statistical significance, this work element also may include modeling, indices, and synthesis. Typically culminates in resource management recommendations presented in a report of research/evaluation findings or analyses presented as formal publications. For the effort to publish your study, also use 183. Produce Journal Article. If you are processing field samples/specimens (e.g., tissue, macroinvertebrate, or water quality samples) use 157 Collect/Generate/Validate Field and Lab Data, and include the milestone "Process field samples/specimens." | Timothy Ludington | ✓ | | ✓ | ✓ | ✓ | ✓ |
| 182 | PIT Tags | This is a BPA Internal-use only work element. BPA uses this work element to capture the cost of PIT tags purchased by BPA on behalf of the contractor(s). While this work element is not included in the contractor's statement of work, it is a project expense. Use WE#158, Mark/Tag Animals, for contractor expenses associated with ordering and/or implanting the tags in fish or wildlife. | Timothy Ludington | ✓ | | | | ✓ | |



RM & E and Data Management Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|---|---|--------------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 183 | Produce Journal Article | <p>The "general title/subject" of an individual manuscript should be named in the WE title. This work element should only be used when either the study is complete, or when a very significant stage of the data collection and analyses are done, and the subject matter is well defined. Separate work elements should be used for each document. If you do not have a proposed title (or subject), you may not be far enough along in the data analysis to be using this work element. This work element applies only to manuscripts being submitted for possible peer-reviewed publication. Other technical analyses should be included as part of a project progress report WE#132, Produce (Annual) Progress Report.</p> | Siena Lopez-Johnston | ✓ | | ✓ | | ✓ | |



Water Conservation and Irrigation Practices Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|--|---|-----------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 203 | Install Water Conservation Measure | <p>This work element is for work designed to provide irrigation efficiencies which result in increased instream flow, such as installing a pipeline, sprinkler, and/or lining a diversion ditch. Other options should have already been considered to accomplish this purpose, such as water transactions or obtaining cost-share for this work element and subsequently transferring conserved water instream.</p> <p>To cover initial work to put conserved water instream, including coordinating with the Columbia Basin Water Transactions Program, also use WE#154, Develop and Negotiate Water Right Transaction and WE#164, Acquire Water Instream.</p> <p>If the conservation measure is part of a larger irrigation consolidation project that involves eliminating a diversion, then you must also use WE#208, Irrigation Infrastructure Construction or Replacement. If installing a pipeline to provide water to livestock, use WE#34, Develop Alternative Water Source instead.</p> | Maura Eagan Moody | ✓ | ✓ | ✓ | ✓ | ✓ | |



Water Transactions Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|---|---|-----------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 154 | Develop and Negotiate Water Right Transaction | Covers initial aspects of completing water right transactions from preliminary evaluation of the viability of a specific transaction opportunity to preparing the water transaction. May include: negotiating, proposing, and review of water deals through the Columbia Basin Water Transactions Program (www.CBWTP.org) process. Entities seeking to do a water transaction or conserve water should contact the CBWTP to acquire or transfer water instream. Work element does not include general landowner coordination before any transaction opportunity is identified. Includes development of transactions to put more water instream such as split season leases, long-term leases, diversion reduction agreements, permanent water transfers, stored water agreements to increase stream flows, conserved water, and water exchanges. | Maura Eagan Moody | ✓ | | | | ✓ | |



| | | | | | | | | |
|-----|--|---|--|---|---|---|---|---|
| 164 | Acquire Water Instream | <p>Covers final aspects to complete implementation of water transactions through the Columbia Basin Water Transactions Program process to maintain and/or increase the flow of water to provide needed habitat conditions. Work includes steps for payment of funds to water right holder and/or completion of agreement for securing protected water instream. The work element involves the purchase or transfer of water rights for instream purposes, and these water allocations are not withdrawn from the stream. This work element is generally linked with WE#154, Develop and Negotiate Water Right Transaction.</p> | Maura Eagan Moody | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | <p>This work element may be linked with WE#82, Install Well, WE#149, Install Pipeline, WE#150, Install Sprinkler, and WE#151, Line Diversion Ditch for purposes of legally transferring conserved water instream. Entities using these irrigation efficiency work elements and putting water instream should coordinate with the CBWTP to complete a CBWTP water transaction checklist to ensure conserved flow is put instream and this work element is used to collect metrics for the amount of flow secured instream. See www.cbwtp.org for more information regarding the Columbia Basin Water Transactions Program. This work element may often be used in a separate contract, such as a contract under the CBWTP, instead of the contract with irrigation efficiency work elements due to the time involved for the conserved water application to be processed through the state water agency. This work element may also be used to transfer water rights instream that were secured from an earlier land transaction if the water rights were not dedicated to instream purposes at the time of acquiring the land and putting the water rights instream is consistent with the fish and wildlife purposes.</p> | | | | | | |



Other Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|--------------------|-----------------------|--|----------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 98 | Other | <p>In rare instances, a contractor may be performing a type of work that is fundamentally different than anything described by existing work elements. In such a case, the contractor should consult with his or her BPA project manager to determine if using the "Other" work element is appropriate.</p> <p>Do NOT use "Other" to account for costs that will help you achieve other planned work. For example, equipment rental that will help with data collection should be included in WE#157, Collect/Generate/Validate Field and Lab Data, and purchasing large wood for future habitat work, even if it's in a subsequent contract, should be captured under WE#29, Increase Aquatic and/or Floodplain Complexity. This allows BPA to more accurately track spending on different types of work.</p> | Peter Lofy | ✓ | ✓ | | ✓ | ✓ | |



Other Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|---|---|-----------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 194 | Income-Producing Activities | <p>Includes all benefits and income-producing activity taking place on, or associated with property purchased with BPA funds. Benefits are actions that take place (such as grazing contractor-owned cattle) which have value to the recipient, but for which income is not received by the contractor. Income (including interest) must be placed in a separate account for this project, and not intermingled with other funds. Benefits, Income and a Spending Plan must be documented in a stand-alone report.</p> <p>The Work Element Budget for this WE should reflect all costs, including indirect, required to administer all benefits, income-producing actions and completion of a Spending Plan for which the contractor requests BPA reimbursement as part of this contract.</p> | Sandra Fife | ✓ | ✓ | | ✓ | | |



Other Work Elements

| ID | Work Element Name | Definition | WE Owner | Deliverable Needed | EC Review Required (1) | Metrics Needed | Location Needed (CBFish or Monitoring Resources) | Focal Species Needed | RM&E Metadata Needed |
|---------------------|---|--|-------------------------------|--------------------|------------------------|----------------|--|----------------------|----------------------|
| 201 | Construction - Non-Hatchery | <p>This work element should be used only on a limited basis. This work element covers all work associated with the planning, construction, or addition to an existing building or facility that is not part of a hatchery. This includes construction of any structural component of the building associated with the site. For example: office buildings, shops, equipment storage sheds, maintenance buildings, etc.</p> <p>This work element is meant to be used only for construction that cannot fit into another work element. For example: nursery construction should use 47. Plant Vegetation, bridge construction should use 184. Install Fish Passage Structure. Instream work should use the work element that best describes it, such as 29. Increase Aquatic and/or Floodplain Complexity or 30. Realign, Connect, and/or Create Channel. Any maintenance to existing structure should use 186 Operate and Maintain Habitat/Passage/Structure.</p> | Cecilia Brown | ✓ | ✓ | | ✓ | | |

This report summarizes 75 data records available for independent analysis in [structured text \(.TXT\)](#) and in [Excel 2003 \(.XLS\)](#) format.

Footnotes:

1. EC = Environmental Compliance.